

## ABSTRACT

In a base station apparatus 102, when an IGMP control message is contained in a variable-length packet in which  
5 is indicated the destination for performing communication in one-to-one or one-to-multiple mode with mobile station apparatuses 106-1 through 106-3, the IGMP control message is mapped onto a fixed-length short packet that is shorter than a fixed-length packet used in communication with  
10 mobile station apparatuses 106-1 through 106-3, and also, a variable-length packet is mapped onto a fixed-length packet and a frame signal is composed from this fixed-length packet and the short packet, and is transmitted. In mobile station apparatuses 106-1  
15 through 106-3, the frame signal is decomposed and the variable-length packet and short packet are extracted, the IGMP control message is extracted from the short packet and mapped onto another variable-length packet, and both variable-length packets are multiplexed.